

From Earth Observations to Earth Action: Satellite Applications for Biodiversity Conservation #WCC_9634

Sunday, September 4th: 14:30-19:00
IUCN World Conservation Congress 2016

Objective:

Learn to utilize Firecast to enhance monitoring ecosystem disturbances such as fires, fire risk conditions, deforestation, and protected area encroachment, for near real-time alerts integral to decision-making.

Firecast is a web-based application that allows for easy and quick analysis, visualization, and download of subscribed datasets.

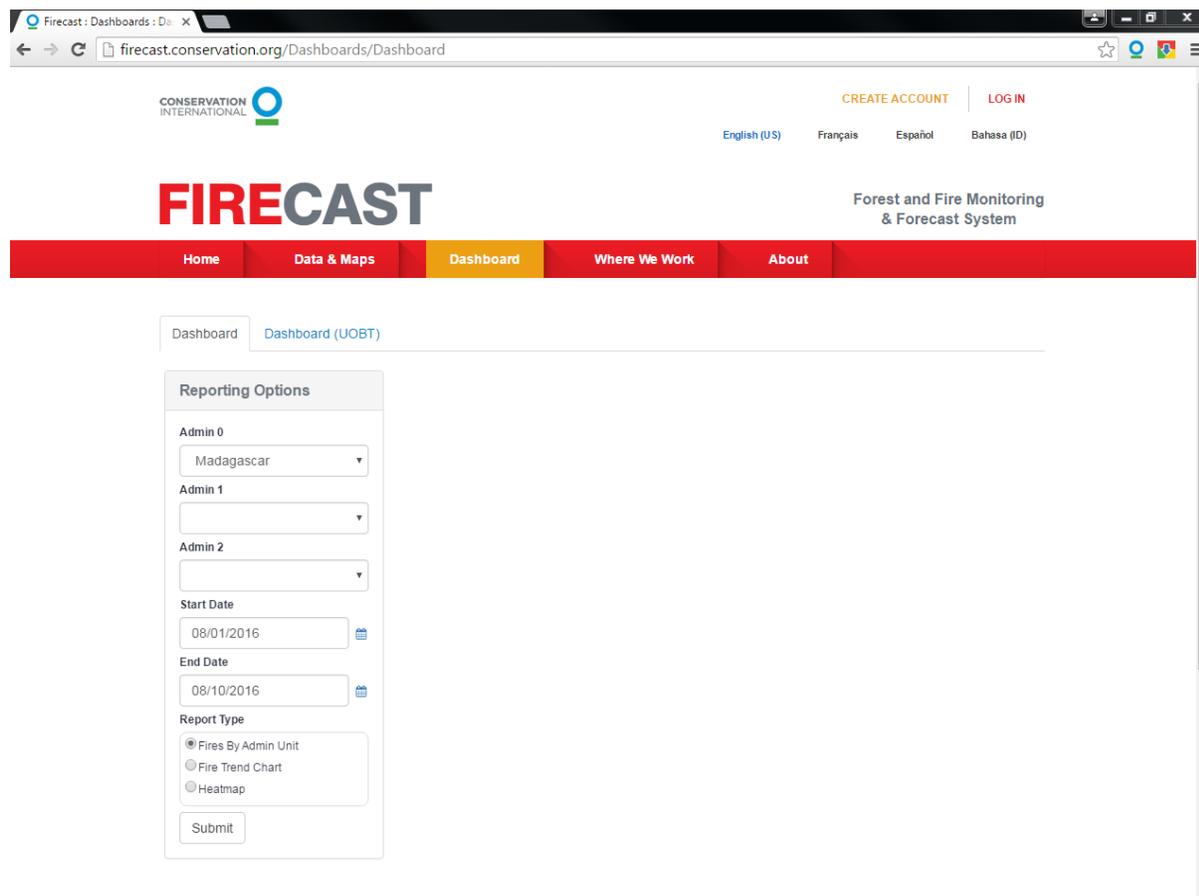
<http://firecast.conservation.org/>

There are three parts to this exercise:

1. Navigating the dashboard to download fire information pertaining to the area of interest.
2. Assessing fire trends through the dashboard.
3. Using the web map and interpreting events.

Part 1: Reporting Options in Dashboard

Identify the region in Madagascar with the highest number of fires detected from August 1-10, 2016.



The screenshot shows the Firecast web application interface. The browser address bar displays "firecast.conservation.org/Dashboards/Dashboard". The page header includes the Conservation International logo, "CREATE ACCOUNT", and "LOGIN" links. Language options are listed as "English (US)", "Français", "Español", and "Bahasa (ID)". The main heading is "FIRECAST" with the subtitle "Forest and Fire Monitoring & Forecast System". A red navigation bar contains "Home", "Data & Maps", "Dashboard", "Where We Work", and "About". Below the navigation bar, the "Dashboard" tab is selected, and the "Reporting Options" form is displayed. The form includes the following fields:

- Admin 0:** A dropdown menu with "Madagascar" selected.
- Admin 1:** An empty dropdown menu.
- Admin 2:** An empty dropdown menu.
- Start Date:** A date input field with "08/01/2016" and a calendar icon.
- End Date:** A date input field with "08/10/2016" and a calendar icon.
- Report Type:** Radio buttons for "Fires By Admin Unit" (selected), "Fire Trend Chart", and "Heatmap".
- Submit:** A button at the bottom of the form.

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Part 2: Fire Trend Chart in Dashboard

Use the Fire Trend Chart to identify the month with the highest fire activity in Lampung Province, Indonesia.

The screenshot shows a web browser window displaying the FIRECAST application. The browser's address bar shows the URL `firecast.conservacion.org/Dashboards/Dashboard`. The page header features the FIRECAST logo and the text "Forest and Fire Monitoring & Forecast System". A red navigation bar contains the following menu items: Home, Data & Maps, Dashboard (highlighted), Where We Work, and About. Below the navigation bar, there are two tabs: "Dashboard" and "Dashboard (UOBT)". The main content area displays a "Reporting Options" form with the following fields and options:

- Admin 0:** A dropdown menu with "Indonesia" selected.
- Admin 1:** A dropdown menu with "Lampung" selected.
- Admin 2:** An empty dropdown menu.
- Start Date:** An empty text input field with a calendar icon to its right.
- End Date:** An empty text input field with a calendar icon to its right.
- Report Type:** A group of three radio button options:
 - Fires By Admin Unit
 - Fire Trend Chart
 - Heatmap
- Submit:** A button at the bottom of the form.

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Part 3: Interpret the Web Map

On August 3rd, several thermal anomalies were detected by VIIRS in Hawaii. Use the web map to locate them and interpret the events.

The screenshot displays the Firecast web application interface. At the top, the browser address bar shows the URL `firecast.conservacion.org/DataMaps/LiveView`. The page header includes the Conservation International logo, navigation links for 'Home', 'Data & Maps', 'Dashboard', 'Where We Work', and 'About', and user options for 'CREATE ACCOUNT' and 'LOG IN'. The main heading is 'FIRECAST' with the subtitle 'Forest and Fire Monitoring & Forecast System'. Below the header, there are tabs for 'Active Fire Live Map', 'Fire Risk Data Download', 'Maps', and 'Fire Season Severity'. The central map area shows a satellite view of the Hawaiian Islands with several red dots indicating fire points. A legend on the left lists 'MODIS Fire', 'VIIRS Fire', 'QUICC Data', and 'Forest Fire Risk'. On the right, there are buttons for 'Bolivia', 'Colombia', 'Indonesia', 'Madagascar', and 'Peru'. At the bottom, there is a timeline for 'Firepoints 2016-08-02 to 2016-08-03' and input fields for 'Start Date' (2016-08-02) and 'End Date' (2016-08-03). The 'Basemap' section includes options for 'Topographic Features', 'Satellite', and 'Satellite with Labels'. The current map view is 'Satellite'.

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Solutions:

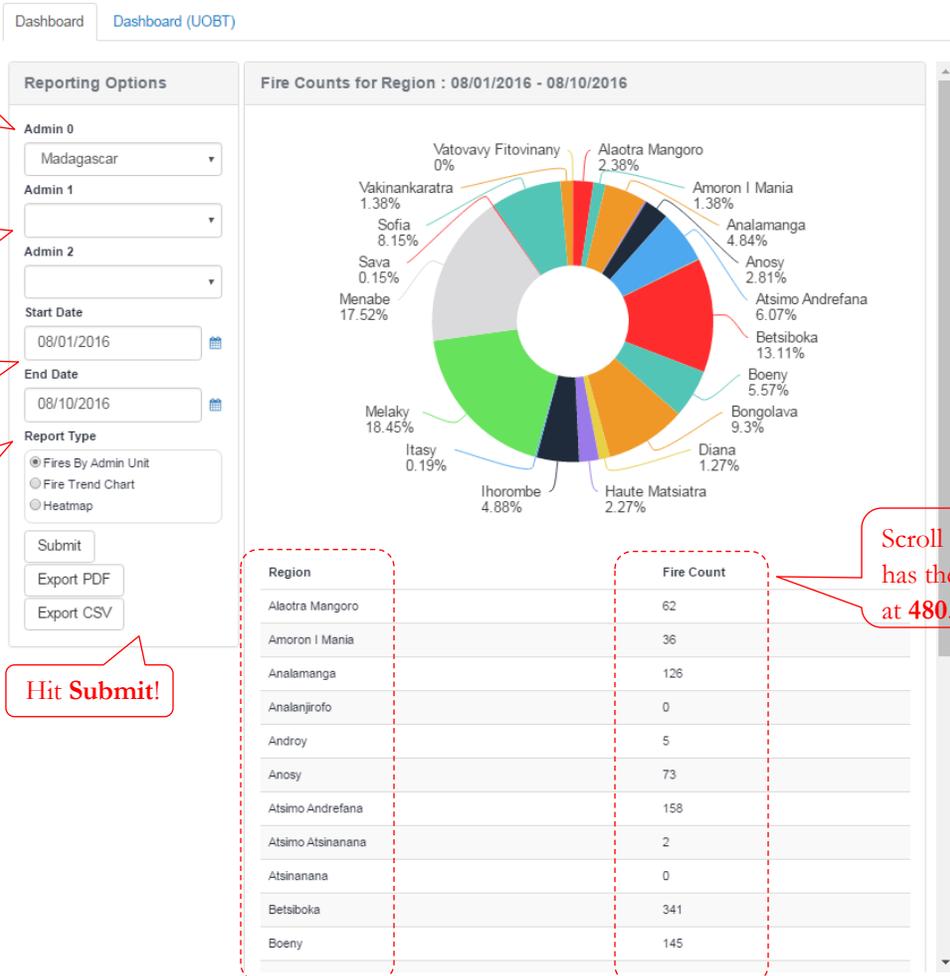
1. Identify the region in Madagascar with the highest number of fires detected from August 1-10, 2016.

Step 1: Choose **Madagascar** under "Admin 0."

Step 2: Leave "Admin 1" and "Admin 2" **blank**, for all of Madagascar.

Step 3: Use the calendar icons to select start and end dates.

Step 4: For "Report Type," choose **Fires by Admin Unit**.



Hit Submit!

Scroll through—**Melaky** has the highest fire count at **480**.

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2. Use the Fire Trend Chart to identify the month in 2015 with the highest fire activity in Indonesia's Lampung Province.

Step 1: Choose **Indonesia** under "Admin 0."

Step 2: Choose **Lampung** under "Admin 1," and leave "Admin 2" blank.

Step 3: For this type of query, dates can be left as default.

Step 4: For "Report Type," select **Fire Trend Chart**.

Dashboard Dashboard (UOBT)

Reporting Options

Admin 0: Indonesia

Admin 1: Lampung

Admin 2:

Start Date: 07/27/2016

End Date: 08/26/2016

Report Type: Fire Trend Chart

Submit

Export PDF

Export CSV

Lampung Historical Fire Trend for 2012 - 2016

Month	2012	2013	2014	2015	2016
Jan	10	10	10	10	10
Mar	10	10	10	10	10
May	20	20	20	20	20
Jul	40	40	40	40	40
Sep	150	150	150	150	150
Oct	380	380	380	580	380
Nov	200	200	200	200	200

October of 2015 had the highest fire activity.

Current fire detections compared with monthly totals for the past 5 years. The black line indicates the 5-year average for monthly fire detections.

Powered by **Logi** ANALYTICS

Hit Submit!

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3. On August 3rd, several thermal anomalies were detected by VIIRS in Hawaii (the Big Island). Use the web map to locate them and interpret the events.

Step 1: Under the “Data & Maps” tab, click on the **Active Fire Live Map** tab.

Step 2: Navigate to Hawaii by zooming in and out, and dragging the screen.

Step 3: Make sure **VIIRS Fire** is checked.

Step 4: Set the start date to **August 3rd**.

By clicking on **Satellite** for Basemap, we can see what is happening on the ground—a volcanic eruption and lava flows!

The image shows a screenshot of a web-based map application titled "Active Fire Live Map". The interface includes a navigation menu at the top with options: "Active Fire Live Map", "Fire Risk Data Download", "Maps", and "Fire Season Severity". The main map area displays a topographic view of the Big Island of Hawaii, with several yellow circular markers indicating fire points. A legend on the left side of the map lists the following layers: "MODIS Fire" (black circle), "VIIRS Fire" (yellow circle), "QUICC Data" (grey circle), and "Forest Fire Risk" (green square). The "VIIRS Fire" layer is checked. Below the map, there is a "Firepoints" timeline showing dates from 2016-8-11 to 2016-7-21. The "Start Date" is set to 2016-08-03 and the "End Date" is 2016-08-10. At the bottom, there are three basemap options: "Topographic Features", "Satellite", and "Satellite with Labels". A circular inset on the right side of the map shows a satellite view of the same area, highlighting a volcanic eruption and lava flows. On the right side of the map, there are buttons for other countries: Bolivia, Colombia, Indonesia, Madagascar, and Peru. A "Hide" button is also visible in the top right corner.